

IN THE CLAIMS:

All pending and new claims are provided immediately below.

80. (Previously Presented) A method for locating a wireless mobile station,
comprising:

receiving first data related to wireless signals communicated between a particular mobile station and at least a first network of a plurality of commercial mobile service provider networks,
5 wherein for each said network, there are a plurality of base stations for at least one of transmitting and receiving wireless signals with a corresponding plurality of mobile stations registered with the network, and wherein said particular mobile station is registered with said first network for subscribing to a wireless service;

first requesting a first location estimate of the particular mobile station, wherein a first
10 location estimator provides said first location estimate of the particular mobile station when said first location estimator is supplied with first location information including data obtained using the first data, said location information capable of changing with a change in a location of the particular mobile station;

wherein when said first location estimate is one of: (a) deemed ambiguous, (b) can not be
15 provided, (c) is not within a desired range of accuracy, and (d) has an extent greater than or equal to a predetermined size, then the steps (A1) and (A2) are performed:

(A1) instructing said particular mobile station to communicate with a second network of the plurality of networks for supplying second data, wherein said particular mobile station is not registered with said second network for subscribing to a wireless service, and wherein said

20 second data is obtained using wireless signals communicated between the particular mobile station and the second network; (A2) second requesting a second location estimate of said particular mobile station wherein said second location estimate is obtained using additional location information obtained at least in part from the second data;

outputting location information for the particular mobile station, wherein said location
25 information is dependent upon at least one of the first and second estimates of the particular mobile station.

81. (Previously Presented) A method for locating a wireless mobile station,
comprising:

first receiving first signal characteristic measurements of wireless signals communicated
between a mobile station and a first network of communication stations, wherein said
5 communication stations in the first network are cooperatively linked by a first wireless service provider for wirelessly communicating with the mobile station;

instructing the mobile station to search for a wireless signal from a second network of
communication stations that are cooperatively linked by a second wireless service provider for
providing wireless communication, wherein said mobile station is for a subscriber of said first
10 wireless service provider, and said mobile station is not for a subscriber of said second wireless service provider;

second receiving second signal characteristic measurements of wireless signals
communicated between the mobile station and said second network of communication stations;

estimating a location of the mobile station using at least one of said first and second signal
15 characteristic measurements.

82. (Previously Presented) A method for locating a wireless mobile station as claimed in Claim 81, wherein the mobile station is registered for a wireless communication service with the first wireless service provider, and the mobile station is not registered for the wireless communication service with the second wireless service provider.

83. (Previously Presented) A method for locating a wireless mobile station as claimed in Claim 81, wherein said step of instructing includes transmitting a command to the mobile station for instructing the mobile station to search for a signal from a communication station of said second wireless service provider in a frequency bandwidth different from a
5 frequency bandwidth for communicating with the communication stations of said first wireless service provider.

84. (Previously Presented) A method for locating a wireless mobile station, as claimed in Claim 81, wherein said step of estimating includes a step of computing a most likely location of said mobile station using a fuzzy logic computation.

85. (Previously Presented) An apparatus for locating a first mobile station, wherein the first mobile station communicates via wireless signals with a first wireless network infrastructure having a plurality of spaced apart communication stations for wireless communication with said first mobile station, wherein at least one of said first mobile station and
5 said first wireless network infrastructure has a capability for obtaining a plurality of multipath measurements for one of: one or more forward transmissions to said first mobile station, and one

or more reverse transmissions from said first mobile station to said first wireless network infrastructure, and wherein said multipath measurements are derived from both fixed clutter and variable clutter, said apparatus comprising:

10 an interface for receiving values indicative of said multipath measurements for at least one of said forward transmissions and said reverse transmissions;

 a mobile station location determining system for locating said first mobile station, wherein said location determining system uses the values, and generates additional values that have an enhanced dependence on multipath measurements derived from fixed clutter as

15 compared to multipath measurements derived from variable clutter;

 wherein said mobile station location determining system includes at least one wireless location determining model for estimating a location of said first mobile station, said at least one model uses one or more of said additional values;

 an output interface for outputting to one of: a communication network that provides
20 telephony services, and the Internet a resulting location estimate of said first mobile station, said resulting location estimate obtained from said location determining system.

86. (Previously Presented) An apparatus for locating a mobile station, comprising:

 a wireless network for communicating with a plurality of mobile stations, wherein said network at least one of: transmits and receives wireless signals from the mobile station, and

 wherein said wireless signals are transmitted by the network in a forward bandwidth and said

5 wireless signals are received at the network in a different reverse bandwidth, and, said wireless network includes a plurality of spaced apart communication stations for communicating via said wireless signals with said plurality of mobile stations;

an interface for supplying to a mobile station location obtaining system measurements including: (i) first measurements of said wireless signals transmitted to the mobile station in said forward radio bandwidth, and (ii) second measurements of said wireless signals received from the mobile station in said reverse radio bandwidth;

wherein said mobile station location obtaining system estimates a location of said first mobile station using both said first measurements and said second measurements.

87. (Previously Presented) The apparatus of Claim 86, wherein said interface provides to said mobile station location obtaining system with data indicative of CDMA finger measurements related to said radio signals communicated between the network and the mobile station.

88. (Currently Amended) A method for locating a mobile station using wireless signal measurements obtained from transmissions between the mobile station and at least one of a plurality of communication stations, wherein each of said communications stations includes one or more of a transmitter and a receiver for wirelessly communicating with the mobile station, comprising;

transmitting to the mobile station, a control message from one of the communication stations, wherein said message is received by a receiving antenna of said mobile station;

wherein the control message requests activation of at least one of a control processor and a searcher receiver in the mobile station, for determining a plurality of multipath finger sets for a wireless communication between said mobile station and at least a first of the communication stations, wherein for at least some of said multipath finger sets are different;

receiving information related to said finger sets in response to transmissions from the mobile station;

supplying said information for at least one of said finger sets to a mobile station location
15 estimator for estimating a location of said mobile station.

89. (Previously Presented) A method for locating a wireless mobile station, comprising:

receiving data indicative of wireless signal measurements obtained via wireless signals communicated between a particular mobile station and a plurality of communication stations of a
5 wireless infrastructure operated by a commercial radio service provider, wherein said particular mobile station is not registered with said commercial radio service provider;

wherein each of said communications stations includes one or more of a transmitter and a receiver for wirelessly communicating with said particular mobile station;

wherein said data includes information that is dependent upon a location of each of at
10 least a first and a second of said plurality of communication stations;

determining, using at least said information, an estimate of a location, L, of said particular mobile station;

wherein said step of determining includes performing a substep of obtaining at least (a) and (b) following: (a) first location data indicative of a first range of locations for L relative to
15 said first communication station, and (b) second location data indicative of a second range of locations for L relative to said second communication station.

90. (Previously Presented) The method of Claim 80, further including a step of

determining said location information by performing a step of adjusting a confidence value for at least one of the first and second location estimates, wherein values for at least some of the following factors are used in adjusting the confidence value: (a) how closely the location estimate matches a predetermined route, (b) how likely an estimated velocity of the particular mobile station is for a geographical area having the location estimate; (c) how closely the location estimate corresponds to a different estimate for locating the particular mobile station; (d) how closely the location estimate corresponds to an extrapolated location estimate of the particular mobile station.

91. (Canceled)

92. (Currently Amended) The method of Claim [[96]]97, wherein NTWK₁ ~~NTWK_{reg}~~ provides voice communications, and NTWK₂ ~~NTWK₀~~ includes at least a portion of the Internet.

93. (Cancel)

94. (Previously Presented) The method of Claim 96 further including receiving vehicle operation information from sensors on a vehicle having the particular mobile station.

95. (Previously Presented) The method of Claim 94, wherein said vehicle operation information is used for controlling an operation a vehicle.

96. (Currently Amended) A method for utilizing mobile station location information,

comprising:

receiving, at a predetermined destination and as a consequence of a transmission from a location provider, location information for a mobile station (M_1);

5 wherein the location provider performs a first geolocation related task that ~~results in~~ ~~has as a consequence~~ a performance of a first geolocation computation whose geolocation result is used to determine at least one geographical extent or position (G_1) for the mobile station M_1 , and wherein the geographical extent or position G_1 is used to obtain the location information;

wherein the first geolocation computation is performed using a first input obtained as a result
10 of (A) and (B) following:

(A) a communication of M_1 geolocation indicative data from the mobile station M_1 to a network ($NTWK_1$), the M_1 geolocation indicative data obtained from a corresponding wireless communication between: (1) the mobile station M_1 , and (2) at least one of: a receiver at a known location, and a transmitter at a known
15 location; and

(B) a transmission, ~~from~~ via the network $NTWK_1$, of M_1 geolocation information for providing at least a portion (P_1) of the first input to the first geolocation computation, wherein the M_1 geolocation information is obtained, at least in part, from the M_1 geolocation indicative data;

20 wherein the location provider performs a second geolocation related task that ~~results in~~ ~~has as a consequence~~ a performance of a second geolocation computation whose geolocation result is used in determining at least one geographical extent or position (G_2) for a mobile station (M_2);

wherein the second geolocation computation is performed using a second input obtained via (C) and (D) following:

(C) a wireless communication of M_2 geolocation indicative data from the mobile station M_2 to a network ($NTWK_2$), the M_2 geolocation indicative data obtained from a corresponding wireless communication between: (3) the mobile station M_2 , and (4) at least one of: a receiver at a known location, and a transmitter at a known location; and

(D) a transmission ~~from~~ via the network $NTWK_2$ of M_2 geolocation information for providing at least a portion (P_2) of the second input to the second geolocation computation, wherein the M_2 geolocation information is obtained, at least in part, from the M_2 geolocation indicative data;

wherein the network $NTWK_1$ is operated by a first service provider and the network

$NTWK_2$ is operated by a second service provider different from the first service provider;

wherein at least one of the following (a) and (b) is satisfied:

(a) the portion P_1 is obtained using a signal time delay, and the geographical extent or position G_1 is obtained using P_1 , and the portion P_2 is obtained using a signal time delay, and the geographical extent or position G_2 is obtained using P_2 ; and

(b) for a geolocation computation (CG) that yields effectively a same geolocation result as the second geolocation computation when supplied with a geolocation content obtained from the second input, the location provider does not perform CG for locating M_1 for

~~locating M_1 , the location provider does not perform a geolocation-related computation that results in a performance of a geolocation computation (GC) for locating M_1 ;~~

~~wherein for locating M_2 , the geolocation computation CG would yield effectively a same geolocation result as the second geolocation computation when CG is supplied~~

~~with a geolocation content for the second input; and~~

using said location information for one of: locating, monitoring and accessing said mobile station M_1 .

97. (Currently Amended) A method for locating one or more mobile stations, comprising:

first receiving, by a ~~predetermined~~ location provider, a request for locating a mobile station (M_1);

5 first performing a first geolocation related task that has as a result of consequence a performance of a first geolocation computation whose geolocation result is used to determine at least one geographical extent or position (G_1) for the mobile station M_1 , wherein the first geolocation computation uses first input for obtaining G_1 , and the first input is obtained using (A) and (B) following:

10 (A) a wireless communication of M_1 geolocation indicative data from the mobile station M_1 to a network ($NTWK_1$), the M_1 geolocation indicative data obtained from a corresponding communication between: (1) the mobile station M_1 , and (2) at least one of: a receiver at a known location, and a transmitter at a known location; and

15 (B) a transmission via ~~from~~ the network $NTWK_1$ of M_1 geolocation information for providing at least a portion (P_1) of the first input to the first geolocation computation, wherein the M_1 geolocation information is obtained, at least in part, using the M_1 geolocation indicative data;

second receiving, by the ~~predetermined~~ location provider, a request for locating a mobile

station (M_2);

second performing a second geolocation related task that has as a result of consequence a performance of a second geolocation computation whose geolocation result is used to determine at least one geographical extent or position (G_2) for the mobile station M_2 , wherein the second geolocation computation uses a second input, the second input obtained using (C) and (D)

following:

(C) a wireless communication of M_2 geolocation indicative data from the mobile station M_2 to a network ($NTWK_2$), the M_2 geolocation indicative data obtained from a corresponding communication between: (3) the mobile station M_2 , and (4) at least one of: a receiver at a known location, and a transmitter at a known

location; and

(D) a transmission, via ~~from~~ the network $NTWK_2$, of M_2 geolocation information for providing at least a portion (P_2) of the second input to the second geolocation computation, wherein the M_2 geolocation information is obtained, at least in part, from the second geolocation indicative data;

wherein the network $NTWK_1$ is operated by a first service provider and the network $NTWK_2$ is operated by a second service provider different from the first service provider;

wherein at least one of the following (a) and (b) is satisfied:

(a) the portion P_1 is obtained using a signal time delay, and the geographical extent or position G_1 is obtained using P_1 , and the portion P_2 is obtained using a signal time delay, and the geographical extent or position G_2 is obtained using P_2 ; and

(b) for a geolocation computation (CG) that yields effectively a same geolocation result as the second geolocation computation when supplied with a geolocation content obtained from the second input, the location provider does not perform CG for locating M_1 ~~for locating M_1 , the location provider does not perform a geolocation-related computation that results in a performance of a geolocation computation (CG) for locating M_1 , wherein for locating M_2 , the geolocation computation CG would yield effectively a same geolocation result as the second geolocation computation when CG is supplied with a geolocation content for the second input; and~~

providing, to a predetermined destination, location information obtained using one or more of said geographical extents or positions G_1 and G_2 .

98. (Currently Amended) A method for accessing a location provider, comprising:
first obtaining, by a network ($NTWK_1$) operated by a first service provider, first geolocation related information for locating a mobile station ($M_{1,1}$);
first communicating with a location provider for providing thereto the first geolocation related information, wherein there is two-way communication between the network $NTWK_1$, and the location provider, and wherein the location provider uses the first geolocation related information for performing a first geolocation related task that has as a result ~~consequence~~ a performance of a first geolocation computation whose geolocation result is used to determine at least one geographical extent or position ($G_{1,1}$) for the mobile station $M_{1,1}$;
wherein the first geolocation computation is performed using a first input obtained as a result of (A) and (B) following:

(A) a wireless communication of $M_{1,1}$ geolocation indicative data from the mobile station $M_{1,1}$ to the network $NTWK_1$, the $M_{1,1}$ geolocation indicative data obtained from a corresponding wireless communication between: (1) the mobile station $M_{1,1}$, and (2) at least one of: a receiver at a known location, and a transmitter at a known location; and

(B) a transmission, from the network $NTWK_1$, of $M_{1,1}$ geolocation information for providing at least a portion ($P_{1,1}$) of the first input to the first geolocation computation, wherein the $M_{1,1}$ geolocation information is obtained, at least in part, from the $M_{1,1}$ geolocation indicative data ~~first geolocation indicative data~~; second obtaining, by the network $NTWK_1$, second geolocation related information for locating a mobile station ($M_{1,2}$);

second communicating with the location provider for providing thereto the second geolocation related information, wherein there is two-way communication between the network $NTWK_1$, and the location provider uses the second geolocation related information for performing a second geolocation related task that has as a result ~~consequence~~ a performance of a second geolocation computation whose geolocation result is used in determining at least one geographical extent or position ($G_{1,2}$) for the mobile station $M_{1,2}$;

wherein the second geolocation computation is performed using a second input obtained via (C) and (D) following:

(C) a communication of $M_{1,2}$ geolocation indicative data for the mobile station $M_{1,2}$ to the network $NTWK_1$, the $M_{1,2}$ geolocation indicative data obtained from a corresponding communication between: (3) the mobile station $M_{1,2}$, and (4) at

least one of: a receiver at a known location, and a transmitter at a known location;

and

(D) a transmission from the network NTWK_1 of $\text{M}_{1,2}$ geolocation information for providing at least a portion ($\text{P}_{1,2}$) of the second input to the second geolocation computation, wherein the $\text{M}_{1,2}$ geolocation information is obtained, at least in part, from the $\text{M}_{1,2}$ geolocation indicative data;

wherein there is two way communication between the location provider and another network (NTWK_2) that is operated by a second service provider in competition with the first service provider, wherein the communication with the network NTWK_2 provides third geolocation related information for locating a mobile station (M_2), wherein the location provider uses the third geolocation related information for performing a third geolocation related task that has as a result consequence a performance of a third geolocation computation whose geolocation result is used in determining at least one geographical extent or position (G_2) for the mobile station M_2 ;

wherein the third geolocation computation is performed using a third input obtained via (E) and (F) following:

(E) a wireless communication of M_2 geolocation indicative data from the mobile station M_2 to the network NTWK_2 , the M_2 geolocation indicative data obtained from a corresponding wireless communication between: (5) the mobile station M_2 , and (6) at least one of: a receiver at a known location, and a transmitter at a known location; and

(F) a transmission from the network NTWK_2 of M_2 geolocation information for

providing at least a portion (P_2) of the third input to the third geolocation computation, wherein the M_2 geolocation information is obtained, at least in part, from the M_2 geolocation indicative data;

wherein at least one of the following (a) through (c) are satisfied:

- 60 (a) the portion $P_{1,1}$ is obtained from a signal time delay, and the geographical extent or position $G_{1,1}$ is obtained using $P_{1,1}$, and the portion P_2 is obtained from a signal time delay, and the geographical extent or position G_2 is obtained using P_2 ;
- (b) for a geolocation computation (CG_2) that yields effectively a same geolocation result as the third geolocation computation when supplied with a geolocation
65 content obtained from the third input, the location provider does not perform CG_2
for locating $M_{1,1}$ for locating $M_{1,1}$, the location provider does not perform a
geolocation-related computation that results in a performance of a geolocation
computation (CG_4) for locating $M_{1,1}$, wherein for locating M_2 , the geolocation
computation CG_4 would yield effectively a same geolocation result as the third
70 geolocation computation when CG_4 is supplied with a geolocation content for the
third input; and
- (c) for a geolocation computation ($CG_{1,2}$) that yields effectively a same geolocation
result as the second geolocation computation when supplied with a geolocation
content obtained from the second input, the location provider does not perform
75 $CG_{1,2}$ for locating $M_{1,1}$ for locating $M_{1,1}$, the location provider does not perform a
geolocation-related computation that results in a performance of a geolocation
computation (CG_2) for locating $M_{1,1}$, wherein for locating $M_{1,2}$, the geolocation
computation CG_2 would yield effectively a same geolocation result as the second

~~geolocation computation when CG₂ is supplied with a geolocation content for the~~
80 ~~second input.~~

99. (New) The method of Claim 96, wherein the location provider performs at least one task (T) of the first, and second geolocation-related tasks includes one or more of the following tasks:

(T1) determining a priority for performing subsequent geolocation related processing for
5 locating one of the mobile stations M_1 and M_2 ;

(T2) selecting one or more of a plurality of geolocation generating sources, wherein the selection is dependent upon an availability of corresponding geolocation data for inputting to the geolocation generating sources, said corresponding geolocation data including a corresponding one of the first and second inputs for a corresponding one
10 of the first and second geolocation computations;

(T3) resolving ambiguities between multiple location estimates for the respective one of the mobile stations M_1 and M_2 being located;

(T4) generating an audit trail of a subscriber profile for a subscriber of a corresponding one of the mobile stations M_1 and M_2 ;

15 (T5) routing one of the first and second inputs ~~geolocation-related information~~ to one or more geolocation generating sources according to an identification of the one of the first and second inputs ~~geolocation-related information~~;

(T6) associating different instances of geolocation data for obtaining a data ensemble for locating one of the mobile stations M_1 and M_2 , wherein the instances are received
20 from different sources or received at different times;

- (T7) determining a signal processing or transmission capability of one of the mobile stations M_1 and M_2 being located;
- (T8) determining a location of a base station;
- (T9) determining if additional geolocation related information is needed to effectively
25 locate one of the mobile stations M_1 and M_2 being located;
- (T10) transmitting messages to one of the networks $NTWK_1$ and $NTWK_2$ for obtaining, when needed, additional geolocation related information; and
- (T11) activating a signal processing component for adjusting a wireless signal path loss measurement.

100. (New) The method of Claim 99, wherein at least a plurality of the tasks (T1) through (T11) are performed.

101. (New) The method of Claim 99, wherein a majority of the tasks (T1) through (T11) are performed.

102. (New) The method of Claim 99, wherein at least some of the tasks (T1) through (T5) are performed.

103. (New) The method of Claim 102, wherein at least task (T5) is performed and at least some of the geolocation generating sources are distributed on a network.

104. (New) The method of Claim 102, wherein for locating the mobile stations M_1 and

M_2 at least most of the tasks (T1) through (T11) are performed.

105. (New) The method of Claim 96 further including a step of transmitting a request for locating the mobile station M_1 .

106. (New) The method of Claim 96, wherein (a) is satisfied.

107. (New) The method of Claim 96, wherein (b) is satisfied.

108. (New) The method of Claim 107, wherein for a geolocation computation (CG_1) that yields effectively a same geolocation result as the first geolocation computation when supplied with a geolocation content obtained from the first input, the location provider does not perform CG_1 for locating M_2 .

109. (New) The method of Claim 96, wherein each of the mobile stations M_1 and M_2 is capable of performing a base station handoff.

110. (New) The method of Claim 96, wherein the network $NTWK_1$ communicates with the mobile station M_1 via one or more of the wireless protocols: CDMA, W-CDMA, TDMA, GSM, AMPS, and NAMPS.

111. (New) The method of Claim 96, wherein for the mobile station M_1 , the M_1 geolocation indicative data includes measurements of wireless signals indicative of a geolocation

of the mobile station M_1 .

112. (New) The method of Claim 96, wherein there is a common set of geolocation related messages used for communications between the location provider, and each of the networks $NTWK_1$ and $NTWK_2$.

113. (New) The method of Claim 96, wherein for determining a location of the mobile station M_1 , the first geolocation computation is performed remotely from an additional geolocation related computation also used in determining the location information for the mobile station M_1 , wherein a result (R) from least one of: the first geolocation computation, and the additional geolocation related computation is transmitted on a telecommunications network; so that both:

- (1) the result R , and
- (2) a result from the other of: the first geolocation computation, and the additional geolocation related computation

are accessed at a common site prior to said step of receiving the location information.

114. (New) The method of Claim 113, further including a step of requesting the location information, wherein the result R is transmitted after the requesting step.

115. (New) The method of Claim 113, wherein at least one of: (1) the telecommunications network is the Internet, and (2) the telecommunications network uses a TCP/IP communication protocol for transmitting the result R .

116. (New) The method of Claim 96, wherein the location provider receives from the network **NTWK₁** at least one communication (**C₁**) via a message type (**MSG₁**) of a predetermined location related programming interface, wherein the communication **C₁** includes one or more of: (a1) a request for determining a location of **M₁**, and (a2) a notification related to
5 a change in location of **M₁**; and

wherein the location provider transmits to the network **NTWK₁** at least an instance of a message type (**MSG₂**) of the predetermined location related programming interface, wherein the instance of **MSG₂** includes one of: (b1) a request for the **M₁** geolocation information for performing the first geolocation related task, and (b2) a request for notification related to a
10 change in location of **M₁**.

117. (New) The method of Claim 116, wherein instances of the message types **MSG₁** and **MSG₂** are generated in a two way communication between the location provider and the network **NTWK₂** for determining a location of **M₂**.

118. (New) The method of Claim 96, wherein the first input includes geolocation information of a communication device for communicating with the mobile station **M₁** and the network **NTWK₁**, wherein the communications device provides the mobile station **M₁** with voice communication service, and does not provide voice communication to another mobile
5 station that subscribes to voice communication service via the network **NTWK₁**.

119. (New) The method of Claim 118, wherein a geolocation of the communication device is identified with a location of a premises for a subscriber that subscribes to the network NTWK_1 using the mobile station M_1 .

120. (New) The method of Claim 118, wherein the communication device includes a base station.

121. (New) The method of Claim 96, wherein the geographical extent or position G_1 is obtained using corresponding signal time delay measurements of the portion P_1 , and the geographical extent or position G_2 is obtained using a corresponding signal time delay measurements of the portion P_2 , and wherein: (A) said first geolocation computation performs one of a triangulation, a trilateration, a multilateration, and a pattern recognition, and (B) said second geolocation computation performs one of a triangulation, a trilateration, a multilateration and a pattern recognition.

122. (New) The method of Claim 96, wherein the geographical extent or position G_1 is obtained using a geographical extent or position ($\text{G}_{1,1}$) determined at the mobile station M_1 , wherein $\text{G}_{1,1}$ is determined using signal time delay measurements of a wireless communication between: (1) the mobile station M_1 , and (2) at least one of: a receiver at a known location, and a transmitter at a known location.

123. (New) The method of Claim 96, wherein the geographical extent or position G_1 is obtained using a signal time delay measurement from both a forward and reverse signal direction

of a wireless communication between: (1) the mobile station M_1 , and (2) at least one of: a receiver at a known location, and a transmitter at a known location.

124. (New) The method of Claim 96, wherein at least said first geolocation computation uses a signal time difference of arrival for determining the geographical extent or position G_1 .

125. (New) The method of Claim 96, wherein (b) holds, and for determining the geographical extent or position G_1 , the first input includes one of: (A) geolocation data from a distributed antenna system, and (B) geolocation data from a communication of a plurality of daisy chained base stations.

126. (New) The method of Claim 96, further including a step of obtaining information indicative of one of: an acceleration, and a speed of the mobile station M_1 .

127. (New) The method of Claim 96, wherein (a) is satisfied.

128. (New) The method of Claim 96, wherein (b) is satisfied.

129. (New) The method of Claim 96, wherein the mobile station M_1 is independently moveable from the location provider.

130. (New) The method of Claim 129, wherein the mobile station M_2 is independently

moveable from the location provider, and M_2 is independently moveable from M_1 .

131. (New) The method of Claim 129, wherein the mobile station M_1 is not physically connected to the location provider.

132. (New) The method of Claim 96, wherein there is a first two way communication between the network $NTWK_1$ and the location provider using a predetermined location related programming interface for the first two way communication;

wherein there is a second two way communication between the network $NTWK_2$ and the location provider using the predetermined location related programming interface for the second two way communication;

wherein said location related programming interface includes at least two of (1-A) through (1-C) following:

(1-A) a message type for messages to the location provider indicating that wireless location is requested for a response to an emergency;

(1-B) at least one message type for messages to the networks $NTWK_1$ and $NTWK_2$ for requesting mobile station geolocation indicative data, ~~respectively, said first and second input geolocation-related information;~~ and

(1-C) at least one message type for messages to the networks $NTWK_1$ and $NTWK_2$ for requesting notification of a mobile station state change, the notification provided via an access to a home location register for the mobile station having the state change;

wherein for at least one of the message types (1-A) through (1-C), there is an instance of the at least one message type communicated in each of the first and second two way communications.

133. (New) The method of Claim 132, wherein said location related programming interface includes each of (1-A) through (1-C).

134. (New) The method of Claim 96, wherein there is a first two way communication between the network **NTWK₁** and the location provider using a predetermined location related programming interface for the first two way communication;

wherein there is a second two way communication between the network **NTWK₂** and the location provider using the predetermined location related programming interface for the second two way communication;

wherein for each mobile station (**M**) of a plurality of mobile stations, including the mobile station **M₁** and the mobile station **M₂**, the predetermined location related programming interface includes a common set of message types for communicating with a plurality networks, including **NTWK₁** and **NTWK₂**, wherein said common set of message types provides for communications using at least the following messages:

- (i) an alert message from a home location register of the mobile station **M**, the alert message includes information indicative of a change in an operational characteristic of the mobile station **M**, or a change in a geographical location of the mobile station **M**; and

- (ii) text transmission message for sending a short text message to the mobile station **M**, wherein the text transmission message includes location related information for **M**.

135. (New) The method of Claim 96, wherein for at least one geolocation related task of the first and second geolocation related tasks, there is a portion of the at least one geolocation related task that is performed remotely from another portion thereof, wherein communication for using results from the portions occurs via a telecommunication network.

136. (New) The method of Claim 135, wherein the telecommunication network includes the Internet.

137. (New) The method of Claim 96, wherein the first and second service providers do not have a common owner that controls wireless subscriber services of both the networks **NTWK₁** and **NTWK₂**.

138. (New) The method of Claim 96, wherein each of the first and second service providers have a different collection of subscribers for which wireless service is provided without contacting the other service provider.

139. (New) The method of Claim 96, wherein the first service provider operates a first mobile switching center for providing at least voice communication with mobile stations; and wherein the second service provider operates a different second mobile switching center

for providing at least voice communication with mobile stations, wherein the first and second

5 mobile switching centers are not operably controlled by a common entity for providing

substantially all voice communication on both of the networks NTWK_1 and NTWK_2 .

140. (New) The method of Claim 96, wherein the first service provider stores first subscriber information for a first collection of subscribers that subscribe to a first wireless service of the first service provider; and

5 wherein the second service provider stores a second subscriber information for a second collection of subscribers that subscribe to a second wireless service of the second service provider;

wherein the first and second collections identify substantially different subscribers, and wherein a subscriber of the first service provider gains access to the second wireless service by the first service provider receiving information from the second subscriber information.

141. (New) The method of Claim 96, wherein the first and second service providers are competitors for wireless subscribers.

142. (New) The method of Claim 96, wherein: the mobile station \mathbf{M}_1 and the mobile station \mathbf{M}_2 are identical.

143. (New) The method of Claim 142, wherein when a first instance of the geographical extent or position \mathbf{G}_1 is determined to be one of:

(a) ambiguous,

(b) not provided,

5 (c) not within a desired range of accuracy, and

(d) a geographical extent greater than or equal to a predetermined size,

then said mobile station M_1 communicates with the network $NTWK_2$ for obtaining geolocation indicative data from a corresponding communication between: (i) the mobile station M_1 , and (ii) at least one of: a receiver at a known location, and a transmitter at a known location.

144. (New) The method of Claim 142 wherein the M_1 geolocation indicative data and the M_2 geolocation indicative data are for substantially a same location.

145. (New) The method of Claim 96, wherein: (a) said predetermined destination is for a vehicle rental agency, (b) the mobile station M_1 resides in a rental vehicle of the rental agency, (c) said rental vehicle has been dropped off at a location that is remote from a premise operated by the vehicle rental agency, and (d) said location information corresponds to the

5 location of the vehicle.

146. (New) The method of Claim 96, wherein said mobile station M_1 is included in a vehicle for wirelessly controlling one or more of the following vehicle operations: (a) locking or unlocking vehicle doors, (b) sensing a door position, (c) sensing a keypad depression, (d) sensing a condition of an engine, (e) sensing a condition of a vehicle brake, and (f) sensing a deployment

5 of an air bag.

147. (New) The method of Claim 146, wherein said mobile station M_1 is in

communication with a local area network of the vehicle for performing one or more of the vehicle operations.

148. (New) The method of Claim 96, further including a step of transmitting a request for locating the mobile station M_1 to the location provider, wherein said request is encrypted.

149. (New) The method of Claim 96, further including a step of receiving data indicative of an event or a condition that occurs substantially at the mobile station M_1 .

150. (New) The method of Claim 149, wherein the data is obtained via a local area network provided within a vehicle having the mobile station M_1 .

151. (New) The method of Claim 149, wherein the data includes information indicative of a sudden change in an acceleration or deceleration force, or deployment of an air bag.

152. (New) The method of Claim 149, wherein the data includes information indicative of an emergency assistance call.

153. (New) The method of Claim 152, wherein the mobile station M_1 and the mobile station M_2 are identical.

154. (New) The method of Claim 149, wherein the data includes information

indicative of the mobile station M_1 traveling into or out of a designated area.

155. (New) The method of Claim 96, wherein said using step includes communicating control data to the mobile station M_1 for controlling one or more devices co-located with the mobile station M_1 .

156. (New) The method of Claim 96, wherein said receiving step includes one or more of the steps (i) and (ii) following:

- (i) receiving the location information via: (1) a digital air interface voice channel or a wireline channel, and (2) an automatic call distributor; and
- 5 (ii) receiving the location information via: (3) a digital air interface voice channel or a wireline channel, and (4) a hunt group associated with a central office or a PBS group.

157. (New) The method of Claim 96, wherein said receiving step includes receiving said location information via at least one of: (a) a transmission through a network that includes a plurality of independently operated networks, and (b) the Internet.

158. (New) The method of Claim 157, further including receiving one or more updates to said location information without an individual request being transmitted for each of the updates.

159. (New) The method of Claim 96, further including receiving one or more updates to said location information without an individual request being transmitted for each of the

updates.

160. (New) The method of Claim 159, wherein said updates are for one or more of: providing emergency assistance, and locating one or more vehicles.

161. (New) The method of Claim 96, further including transmitting, to the mobile station M_1 , information for navigating a user of the mobile station M_1 to a desired geographical destination.

162. (New) The method of Claim 161, wherein said transmitting step includes transmitting a short message via a short messaging service.

163. (New) The method of Claim 161, wherein said information for navigating includes one or more of: a street address, and a building identification.

164. (New) The method of Claim 96, wherein said predetermined destination is an emergency assistance center.

165. (New) The method of Claim 96, wherein said location provider uses said first input to perform one of: a triangulation, trilateration, and a multilateration for determining the geographical extent or position G_1 for the mobile station M_1 .

166. (New) The method of Claim 165, wherein said location provider uses said second

input to perform one of: a triangulation, trilateration, and a multilateration for determining the geographical extent or position G_2 for the mobile station M_2 , and the mobile station M_1 is different from the mobile station M_2 .

167. (New) The method of Claim 96, wherein:

- (a) the network $NTWK_1$ controls a plurality of base stations for providing two-way communication with the plurality of mobile stations; and
 - (b) the mobile station M_1 is recognized by the network $NTWK_1$ for receiving
- 5 wireless service via the plurality of base stations.

168. (New) The method of Claim 96, wherein the first geolocation computation does not perform a geolocation computation that both: (i) uses a same geolocation content as the second input, and (ii) yields effectively a same geolocation result as the second geolocation computation.

169. (New) The method of Claim 96, wherein one of: the M_1 geolocation information, and the M_2 geolocation information includes a purposefully provided time delay.

170. (New) The method of Claim 97, wherein the location provider performs at least one task of ~~each of the first, and second geolocation-related tasks results in a performance of~~ one or more of the following tasks:

- (T1) determining a priority for performing subsequent geolocation related processing for
- 5 locating one of the mobile stations M_1 and M_2 ;

- (T2) selecting one or more of a plurality of geolocation generating sources, wherein the selection is dependent upon an availability of corresponding geolocation data for inputting to the geolocation generating sources, said corresponding geolocation data including a corresponding one of the first and second inputs for a corresponding one of the first and second geolocation computations;
- (T3) resolving ambiguities between multiple location estimates for the respective one of the mobile stations M_1 and M_2 being located;
- (T4) generating an audit trail of a subscriber profile for a subscriber of a corresponding one of the mobile stations M_1 and M_2 ;
- (T5) routing one of the first and second inputs to one or more geolocation generating sources according to an identification of the one of the first and second inputs;
- (T6) associating different instances of geolocation data for obtaining a data ensemble for locating one of the mobile stations M_1 and M_2 , wherein the instances are received from different sources or received at different times;
- (T7) determining a signal processing or transmission capability of one of the mobile stations M_1 and M_2 being located;
- (T8) determining a location of a base station;
- (T9) determining if additional geolocation related information is needed to effectively locate one of the mobile stations M_1 and M_2 being located;
- (T10) transmitting messages to one of the networks $NTWK_1$ and $NTWK_2$ for obtaining, when needed, additional geolocation related information; and
- (T11) activating a signal processing component for adjusting a wireless signal path loss measurement.

171. (New) The method of Claim 170, wherein at least a plurality of the tasks (T1) through (T11) are performed.

172. (New) The method of Claim 170, wherein a majority of the tasks (T1) through (T11) are performed.

173. (New) The method of Claim 170, wherein at least some of the tasks (T1) through (T5) are performed.

174. (New) The method of Claim 170, wherein at least task (T5) is performed and at least some of the geolocation generating sources are distributed on a network.

175. (New) The method of Claim 170, wherein for locating the mobile stations \mathbf{M}_1 and \mathbf{M}_2 at least most of the tasks (T1) through (T11) are performed.

176. (New) The method of Claim 97 further including a step of transmitting a request for locating the mobile station \mathbf{M}_1 .

177. (New) The method of Claim 97, wherein (a) is satisfied.

178. (New) The method of Claim 97, wherein (b) is satisfied.

179. (New) The method of Claim 178, wherein for a geolocation computation (CG_1) that yields effectively a same geolocation result as the first geolocation computation when supplied with a geolocation content obtained from the first input, the location provider does not perform CG_1 for locating M_2 .

180. (New) The method of Claim 97, wherein at least one of the mobile stations M_1 and M_2 is capable of performing a base station handoff.

181. (New) The method of Claim 97, wherein the network $NTWK_1$ communicates with the mobile station M_1 via one or more of the wireless protocols: CDMA, W-CDMA, TDMA, GSM, AMPS, and NAMPS.

182. (New) The method of Claim 97, wherein for the mobile station M_1 , the M_1 geolocation indicative data includes measurements of wireless signals indicative of a geolocation of the mobile station M_1 .

183. (New) The method of Claim 97, wherein there is a common set of geolocation related messages used for communications between the location provider, and each of the networks $NTWK_1$ and $NTWK_2$.

184. (New) The method of Claim 97, wherein for determining a location of the mobile station M_1 , the first geolocation computation is performed remotely from an additional geolocation related computation also used in determining the location information for the mobile

station M_1 , wherein a result (R) from at least one of: the first geolocation computation, and the
5 additional geolocation related computation is transmitted on a telecommunications network so
that both: (1) the result R , and (2) a result from the other of the first geolocation computation and
the additional geolocation related computation are accessed at a common site prior to said step of
providing the location information.

185. (New) The method of Claim 184, wherein said providing step includes
transmitting the location information, wherein the result R is obtained before the transmitting
step.

186. (New) The method of Claim 184, wherein at least one of: (1) the
telecommunications network is the Internet, and (2) the telecommunications network uses a
TCP/IP communication protocol for transmitting the result R .

187. (New) The method of Claim 97, further including the steps of:
receiving, from the network $NTWK_1$, at least one communication (C_1) via a message
type (MSG_1) of a predetermined location related programming interface, wherein the
communication C_1 includes one or more of: (a1) a request for determining a location of M_1 , and
5 (a2) a notification related to a change in location of M_1 ; and

transmitting, to the network $NTWK_1$, at least an instance of a message type (MSG_2) of
the predetermined location related programming interface, wherein the instance of MSG_2
includes one of: (b1) a request for the M_1 geolocation information for performing the first
geolocation related task, and (b2) a request for notification related to a change in location of M_1 .

188. (New) The method of Claim 187, wherein instances of the message types MSG_1 and MSG_2 are generated in a two way communication between the location provider and the network $NTWK_2$ for determining a location of M_2 .

189. (New) The method of Claim 97, wherein the first input includes geolocation information of a communication device for communicating with the mobile station M_1 and the network $NTWK_1$, wherein the communications device provides the mobile station M_1 with voice communication service, and does not provide voice communication to another mobile station that subscribes to voice communication service via the network $NTWK_1$.

190. (New) The method of Claim 189, wherein a geolocation of the communication device is identified with a location of a premises for a subscriber that subscribes to the network $NTWK_1$ using the mobile station M_1 .

191. (New) The method of Claim 189, wherein the communication device includes a base station.

192. (New) The method of Claim 97, wherein the geographical extent or position G_1 is obtained using corresponding signal time delay measurements of the portion P_1 , and the geographical extent or position G_2 is obtained using corresponding signal time delay measurements of the portion P_2 , and wherein: (A) said first geolocation computation performs

one of a triangulation, a trilateration, a multilateration, and a pattern recognition, and (B) said second geolocation computation performs one of a triangulation, a trilateration, a multilateration, and a pattern recognition.

193. (New) The method of Claim 97, wherein the geographical extent or position G_1 is obtained using a geographical extent or position ($G_{1,1}$) determined at the mobile station M_1 , wherein $G_{1,1}$ is determined using signal time delay measurements of a wireless communication between: (1) the mobile station M_1 , and (2) at least one of: a receiver at a known location, and a transmitter at a known location.

194. (New) The method of Claim 97, wherein the geographical extent or position G_1 is obtained using a signal time delay measurement from both a forward and reverse signal direction of a wireless communication between: (1) the mobile station M_1 , and (2) at least one of: a receiver at a known location, and a transmitter at a known location.

195. (New) The method of Claim 97, wherein at least said first geolocation computation uses a signal time difference of arrival for determining the geographical extent or position G_1 .

196. (New) The method of Claim 97, wherein (b) holds, and for determining the geographical extent or position G_1 , the portion P_1 includes one of: (A) geolocation data from a distributed antenna system, and (B) geolocation data from a communication of a plurality of daisy chained base stations.

197. (New) The method of Claim 97, further including a step of providing information indicative of one of: an acceleration, and a velocity of the mobile station M_1 .

198. (New) The method of Claim 97, wherein (a) is satisfied.

199. (New) The method of Claim 97, wherein (b) is satisfied.

200. (New) The method of Claim 97, wherein the mobile station M_1 is independently moveable from the location provider.

201. (New) The method of Claim 200, wherein the mobile station M_2 is independently moveable from the location provider, and M_2 is independently moveable from M_1 .

202. (New) The method of Claim 200, wherein the mobile station M_1 is not physically connected to the location provider.

203. (New) The method of Claim 97, wherein said step of first receiving is performed in a first two way communication between the network $NTWK_1$ and the location provider using a predetermined location related programming interface for the first two way communication;

wherein said step of second receiving is performed in a second two way communication

5 between the network $NTWK_2$ and the location provider using the predetermined location related programming interface for the second two way communication;

wherein said location related programming interface includes at least two of (1-A) through (1-C) following:

(1-A) a message type for messages to the location provider indicating that wireless
10 location is requested for a response to an emergency;

(1-B) at least one message type for messages to the networks NTWK_1 and NTWK_2 for
requesting, respectively, mobile station geolocation indicative data; and

(1-C) at least one message type for messages to the networks NTWK_1 and NTWK_2 for
requesting notification of a mobile station state change, the notification provided
15 via an access to a home location register for the mobile station having the state
change;

wherein for at least one of the message types (1-A) through (1-C), there is an instance of the
at least one message type communicated in each of the first and second two way
communications.

204. (New) The method of Claim 203, wherein said location related programming
interface includes each of (1-A) through (1-C).

205. (New) The method of Claim 97, wherein said step of first receiving is performed
in a first two way communication between the network NTWK_1 and the location provider using
a predetermined location related programming interface for the first two way communication;

wherein said step of second receiving is performed in a second two way communication
5 between the network NTWK_2 and the location provider using the predetermined location related

programming interface for the second two way communication;

wherein for each mobile station (**M**) of a plurality of mobile stations, including the mobile station **M₁** and the mobile station **M₂**, the predetermined location related programming interface includes a common set of message types for communicating with a plurality networks, including **NTWK₁** and **NTWK₂**, wherein said common set of message types provides for communications using at least the following messages, each having a corresponding message content:

- (i) an alert message from a home location register of the mobile station **M**, wherein the alert message includes information indicative of a change in an operational characteristic of the mobile station **M**, or a change in a geographical location of the mobile station **M**; and
- (ii) text transmission message for sending a short text message to the mobile station **M**, wherein the text transmission message includes location related information for **M**.

206. (New) The method of Claim 97, wherein for at least one geolocation related task of the first and second geolocation related tasks, there is a portion of the at least one geolocation related task that is performed remotely from another portion thereof, wherein communication for using results from the portions occurs via a telecommunication network.

207. (New) The method of Claim 206, wherein the telecommunication network includes the Internet.

208. (New) The method of Claim 97, wherein the first and second service providers do

not have a common owner that controls wireless subscriber services of both the networks **NTWK₁** and **NTWK₂**.

209. (New) The method of Claim 97, wherein each of the first and second service providers have a different collection of subscribers for which wireless service is provided without contacting the other service provider.

210. (New) The method of Claim 97, wherein the first service provider operates a first mobile switching center for providing at least voice communication with mobile stations; and wherein the second service provider operates a different second mobile switching center for providing at least voice communication with mobile stations, wherein the first and second mobile switching centers are not operably controlled by a common entity for providing substantially all voice communication on both of the networks **NTWK₁** and **NTWK₂**.

211. (New) The method of Claim 97, wherein the first service provider stores first subscriber information for a first collection of subscribers that subscribe to a first wireless service of the first service provider; and

wherein the second service provider stores second subscriber information for a second collection of subscribers that subscribe to a second wireless service of the second service provider, wherein the first and second collections identify substantially different subscribers, and wherein a subscriber of the first service provider gains access to the second service by the first service provider receiving information from the second subscriber information.

212. (New) The method of Claim 97, wherein the first and second service providers are competitors for wireless subscribers.

213. (New) The method of Claim 97, wherein: the mobile station M_1 and the mobile station M_2 are identical.

214. (New) The method of Claim 213, wherein when a first instance of one of: the geographical extent or position G_1 , and the location information is for the mobile station M_1 , and, the first instance is one of (a) through (d) following:

(a) deemed ambiguous,

5 (b) can not be provided,

(c) is not within a desired range of accuracy, and

(d) has a geographical extent greater than or equal to a predetermined size,

then a step of instructing said mobile station M_1 to communicate with the network $NTWK_2$ is

performed for obtaining geolocation indicative data from a corresponding communication

10 between: (i) the mobile station M_1 , and (ii) at least one of: a receiver at a known location, and a transmitter at a known location.

215. (New) The method of Claim 213 wherein the M_1 geolocation indicative data and the M_2 geolocation indicative data are for substantially a same location.

216. (New) The method of Claim 97, wherein: (a) said predetermined destination is for a vehicle rental agency, (b) the mobile station M_1 -resides in a rental vehicle of the rental

agency, (c) said rental vehicle has been dropped off at a location that is remote from a premise operated by the vehicle rental agency, and (d) said location information corresponds to the
5 location of the vehicle.

217. (New) The method of Claim 97, wherein said mobile station M_1 is included in a vehicle for wirelessly controlling one or more of the following vehicle operations: (a) locking or unlocking vehicle doors, (b) sensing a door position, (c) sensing a keypad depression, (d) sensing a condition of an engine, (e) sensing a condition of a vehicle brake, and (f) sensing a deployment
5 of an air bag.

218. (New) The method of Claim 217, wherein said mobile station M_1 is in communication with a local area network of the vehicle for performing one or more of the vehicle operations.

219. (New) The method of Claim 97, wherein said request, for locating the mobile station M_1 is encrypted.

220. (New) The method of Claim 97, wherein said step of providing includes providing, to the predetermined destination, data indicative of an event or a condition that occurs substantially at the mobile station M_1 .

221. (New) The method of Claim 220, wherein the data is obtained via a local area network provided within a vehicle having the mobile station M_1 .

222. (New) The method of Claim 220, wherein the data includes information indicative of a sudden change in an acceleration or deceleration force, or deployment of an air bag.

223. (New) The method of Claim 220, wherein the data includes information indicative of an emergency assistance call.

224. (New) The method of Claim 223, wherein the mobile station M_1 and the mobile station M_2 are identical.

225. (New) The method of Claim 220, wherein the data includes information indicative of the mobile station M_1 traveling into or out of a designated area.

226. (New) The method of Claim 97, wherein said predetermined destination transmits control data to the mobile station M_1 for controlling one or more devices co-located with the mobile station M_1 .

227. (New) The method of Claim 97, wherein said providing step includes one or more of (i) and (ii) following:

(i) providing the location information via: (1) a digital air interface voice channel or a wireline channel, and (2) an automatic call distributor; and

5 (ii) providing the location information via: (3) a digital air interface voice channel or a

wireline channel, and (4) a hunt group associated with a central office or a PBS group.

228. (New) The method of Claim 97, wherein said providing step includes providing said location information via at least one of: (a) a transmission through a network that includes a plurality of independently operated networks, and (b) the Internet.

229. (New) The method of Claim 228, further including providing one or more updates of said location information, to the predetermined destination, without an individual request being transmitted for each of the updates.

230. (New) The method of Claim 97, further including providing one or more updates of said location information, to the predetermined destination, without an individual request being transmitted for each of the updates.

231. (New) The method of Claim 230, wherein said updates are for one or more of: providing emergency assistance, and locating one or more vehicles.

232. (New) The method of Claim 97, further including transmitting, to the mobile station M_1 , information for navigating a user of the mobile station M_1 to a desired geographical destination.

233. (New) The method of Claim 232, wherein said transmitting step includes transmitting a short message via a short messaging service.

234. (New) The method of Claim 232, wherein said information for navigating includes one or more of: a street address, and a building identification.

235. (New) The method of Claim 97, wherein said predetermined destination is an emergency assistance center.

236. (New) The method of Claim 97, wherein said first geolocation computation performs one of: triangulation, trilateration, and multilateration for determining the geographical extent or position G_1 for the mobile station M_1 .

237. (New) The method of Claim 236, wherein said second geolocation computation performs one of: a triangulation, trilateration, and a multilateration for determining the geographical extent or position G_2 for the mobile station M_2 , and the mobile station M_1 is different from the mobile station M_2 .

238. (New) The method of Claim 97, wherein:

- (a) the network $NTWK_1$ controls a plurality of base stations for providing two-way communication with a plurality of mobile stations; and
- (b) the mobile station M_1 is recognized by the network $NTWK_1$ for receiving wireless service via the plurality of base stations.

239. (New) The method of Claim 97, wherein the first geolocation computation does

not perform a geolocation computation that both: (i) uses a same geolocation content as the second input, and (ii) yields effectively a same geolocation result as the second geolocation computation.

240. (New) The method of Claim 97, further including receiving a purposefully provided time delay as part of one of: the M_1 geolocation information, and the M_2 geolocation information.

241. (New) The method of Claim 98, wherein the location provider performs at least one task of one or more of the following subtasks:

(T1) determining a priority for performing subsequent geolocation related processing for locating one of the mobile stations $M_{1,1}$, $M_{1,2}$ and M_2 ;

5 (T2) selecting one or more of a plurality of geolocation generating sources wherein the selection is dependent upon an availability of corresponding geolocation data for inputting to the geolocation generating sources, said corresponding geolocation data including a corresponding one of the first, second and third inputs for a corresponding one of the first, second and third geolocation computations;

10 (T3) resolving ambiguities between multiple location estimates for one of the mobile stations $M_{1,1}$, $M_{1,2}$ and M_2 being located;

(T4) generating an audit trail of a subscriber profile for a subscriber of a corresponding one of the mobile stations $M_{1,1}$, $M_{1,2}$ and M_2 ;

15 (T5) routing one of the first, second and third inputs to one or more geolocation generating sources according to an identification of the one of the first and second

inputs;

(T6) associating different instances of geolocation data for obtaining a data ensemble for locating one of the mobile stations $M_{1,1}$, $M_{1,2}$ and M_2 , wherein the instances are received from different sources or received at different times;

20 (T7) determining a signal processing or transmission capability of one of the mobile stations $M_{1,1}$, $M_{1,2}$ and M_2 being located;

(T8) determining a location of a base station;

(T9) determining if additional geolocation related information is needed to effectively locate one of the mobile stations M_1 and M_2 being located;

25 (T10) transmitting messages to one of the networks $NTWK_1$ and $NTWK_2$ for obtaining, when needed, additional geolocation related information; and

(T11) activating a signal processing component for adjusting a wireless signal path loss measurement.

242. (New) The method of Claim 241, wherein at least a plurality of the tasks (T1) through (T11) are performed.

243. (New) The method of Claim 241, wherein a majority of the tasks (T1) through (T11) are performed.

244. (New) The method of Claim 241, wherein at least some of the tasks (T1) through (T5) are performed.

245. (New) The method of Claim 241, wherein at least task (5) is performed and at least some of the geolocation generating sources are distributed on a network.

246. (New) The method of Claim 241, wherein for locating the mobile stations $M_{1,1}$, $M_{1,2}$ and M_2 at least most of the tasks (T1) through (T11) are performed.

247. (New) The method of Claim 98 further including a step of receiving a request for locating the mobile station $M_{1,1}$.

248. (New) The method of Claim 98, wherein (a) is satisfied.

249. (New) The method of Claim 98, wherein (b) is satisfied.

250. (New) The method of Claim 249, wherein for a geolocation computation (CG_1) that yields effectively a same geolocation result as the first geolocation computation when supplied with a geolocation content obtained from the first input, the location provider does not perform CG_1 for locating at least one of $M_{1,2}$ and M_2 .

251. (New) The method of Claim 98, wherein (c) is satisfied.

252. (New) The method of Claim 98, wherein at least one of the mobile stations $M_{1,1}$, $M_{1,2}$ and M_2 is capable of performing a base station handoff.

253. (New) The method of Claim 98, wherein the network NTWK_1 communicates with each of the mobile stations $\text{M}_{1,1}$ and $\text{M}_{1,2}$ via one or more of the wireless protocols: CDMA, W-CDMA, TDMA, GSM, AMPS, and NAMPS.

254. (New) The method of Claim 98, wherein for at least one of the mobile stations $\text{M}_{1,1}$ and $\text{M}_{1,2}$, the corresponding one of: the $\text{M}_{1,1}$ geolocation indicative data and the $\text{M}_{1,2}$ geolocation indicative data includes measurements of wireless signals, wherein the measurements are indicative of a geolocation of the at least one mobile station.

255. (New) The method of Claim 98, wherein there is a common set of geolocation related messages used for communications between the location provider, and each of the networks NTWK_1 and NTWK_2 .

256. (New) The method of Claim 98, wherein for determining a location of at least one of the mobile stations $\text{M}_{1,1}$, and $\text{M}_{1,2}$, a corresponding geolocation computation of one of the first, and second geolocation computations is performed remotely from an additional geolocation related computation also used in determining the location of the at least one mobile station, wherein a result (R) from at least one of: (A) the corresponding geolocation computation, and (B) the additional geolocation related computation is transmitted on a telecommunications network; so that both:

- (1) the result R , and
- (2) a result from the other of: the corresponding geolocation computation, and the additional geolocation related computation

are accessed at a common site prior to providing a location estimate of the at least one mobile station to a party requesting such from the location provider.

257. (New) The method of Claim 256, wherein said at least one mobile station is the mobile station $M_{1,1}$, and further including a step of receiving a request for the location estimate, wherein the result R is transmitted after the receiving step.

258. (New) The method of Claim 256, wherein at least one of: (1) the telecommunications network is the Internet, and (2) the telecommunications network uses a TCP/IP communication protocol for transmitting the result R .

259. (New) The method of Claim 98, further including the steps of:

transmitting, to the location provider, at least one communication (C_1) via a message type (MSG_1) of a predetermined location related programming interface, wherein the communication C_1 includes one or more of: (a1) a request for determining a location of $M_{1,1}$, and (a2) a
5 notification related to a change in location of $M_{1,1}$; and

receiving at least an instance of a message type (MSG_2) of the predetermined location related programming interface from the location provider, wherein the instance of MSG_2 includes one of: (b1) a request for the $M_{1,1}$ geolocation information, and (b2) a request for notification related to a change in location of $M_{1,1}$.

260. (New) The method of Claim 259, wherein instances of the message types MSG_1 and MSG_2 are generated in a two way communication with the network $NTWK_2$ for

determining a location of M_2 .

261. (New) The method of Claim 98, wherein the second geolocation related information includes geolocation information of a communication device for communicating with the mobile station $M_{1,2}$ and the network $NTWK_1$, wherein the communications device provides the mobile station $M_{1,2}$ with voice communication service, and does not provide voice communication to another mobile station that subscribes to voice communication service via the network $NTWK_1$.

262. (New) The method of Claim 261, wherein a geolocation of the communication device is identified with a location of a premises for a subscriber that subscribes to the network $NTWK_1$ using the mobile station $M_{1,2}$.

263. (New) The method of Claim 261, wherein the communication device includes a base station.

264. (New) The method of Claim 98, wherein the geographical extent or position $G_{1,1}$ is obtained using corresponding signal time delay measurements of the portion $P_{1,1}$, and the geographical extent or position G_2 is obtained using a corresponding signal time delay measurements of the portion P_2 , and wherein: (A) said first geolocation computation performs one of a triangulation, a trilateration, a multilateration, and a pattern recognition, and (B) said second geolocation computation performs one of a triangulation, a trilateration, a multilateration

and a pattern recognition.

265. (New) The method of Claim 98, wherein the geographical extent or position $G_{1,1}$ is obtained using a geographical extent or position ($G_{1,3}$) determined at the mobile station $M_{1,1}$, wherein $G_{1,3}$ is determined using signal time delay measurements of a wireless communication between: (1) the mobile station $M_{1,1}$, and (2) at least one of: a receiver at a known location, and a
5 transmitter at a known location.

266. (New) The method of Claim 98, wherein the geographical extent or position $G_{1,1}$ is obtained using a signal time delay measurements from both a forward and reverse signal direction of a wireless communication between: (1) the mobile station $M_{1,1}$, and (2) at least one of: a receiver at a known location, and a transmitter at a known location.

267. (New) The method of Claim 98, wherein at least said first geolocation computation uses a signal time difference of arrival for determining the geographical extent or position $G_{1,1}$.

268. (New) The method of Claim 98, wherein (b) holds, and for determining the geographical extent or position $G_{1,1}$, the first input includes one of: (A) geolocation data from a distributed antenna system, and (B) geolocation data from a communication of a plurality of daisy chained base stations.

269. (New) The method of Claim 98, further including a step of obtaining information

indicative of one of: an acceleration, and a speed of the mobile station $M_{1,1}$.

270. (New) The method of Claim 98, wherein (a) is satisfied.

271. (New) The method of Claim 98, wherein (b) is satisfied.

272. (New) The method of Claim 98, wherein the mobile station $M_{1,1}$ is independently moveable from the location provider.

273. (New) The method of Claim 272, wherein the mobile station M_2 is independently moveable from the location provider, and M_2 is independently moveable from M_1 .

274. (New) The method of Claim 272, wherein the mobile station $M_{1,1}$ is not physically connected to the location provider.

275. (New) The method of Claim 98, wherein there is a first two way communication between the network $NTWK_1$ and the location provider using a predetermined location related programming interface for the first two way communication;

wherein there is a second two way communication between the network $NTWK_2$ and the location provider using the predetermined location related programming interface for the second two way communication;

wherein said location related programming interface includes at least two of (1-A) through (1-C) following:

(1-A) a message type for messages to the location provider indicating that a location is requested for a response to an emergency;

(1-B) at least one message type for messages to the networks **NTWK₁** and **NTWK₂** for requesting, respectively, said first and second geolocation related information; and

(1-C) at least one message type for messages to the networks **NTWK₁** and **NTWK₂** for requesting notification of a mobile station state change, the notification provided via an access to a home location register for the mobile station having the state change;

wherein for at least one of the message types (1-A) through (1-C), there is an instance of the at least one message type communicated in each of the first and second two way communications.

276. (New) The method of Claim 275, wherein said location related programming interface includes each of (1-A) through (1-C).

277. (New) The method of Claim 98, wherein there is a first two way communication between the network **NTWK₁** and the location provider using a predetermined location related programming interface for the first two way communication;

wherein there is a second two way communication between the network **NTWK₂** and the location provider using the predetermined location related programming interface for the second two way communication;

wherein for each mobile station (**M**) of a plurality of mobile stations, including the mobile station **M**_{1,1} and the mobile station **M**₂, the predetermined location related programming interface includes a common set of message types for communicating with a plurality networks, including
10 **NTWK**₁ and **NTWK**₂, wherein said common set of message types provides for communications using at least the following messages:

- (i) an alert message from a home location register of the mobile station **M**, wherein the alert message includes information indicative of a change in an operational characteristic of the mobile station **M**, or a change in a geographical location of
15 the mobile station **M**; and
- (ii) text transmission message for sending a short text message to the mobile station **M**, wherein the text transmission message includes location related information for **M**.

278. (New) The method of Claim 98, wherein for at least one geolocation related task of the first and second geolocation related tasks, there is a portion of the at least one geolocation related task that is performed remotely from another portion thereof, wherein communication for using results from the portions occurs via a telecommunication network.

279. (New) The method of Claim 278, wherein the telecommunication network includes the Internet.

280. (New) The method of Claim 98, wherein the first and second service providers do not have a common owner that controls wireless subscriber services of both the networks

NTWK₁ and **NTWK₂**.

281. (New) The method of Claim 98, wherein each of the first and second service providers have a different collection of subscribers for which wireless service is provided without contacting the other service provider.

282. (New) The method of Claim 98 further including a step of operating a first mobile switching center for providing at least voice communication with mobile stations; and wherein the second service provider operates a different second mobile switching center for providing at least voice communication with mobile stations, wherein the first and second
5 mobile switching centers are not operably controlled by a common entity for providing substantially all voice communication on both of the networks **NTWK₁** and **NTWK₂**.

283. (New) The method of Claim 98, further includes a step of storing first subscriber information for a first collection of subscribers that subscribe to a first wireless service provided by the first service provider; and

wherein the second service provider stores a second subscriber information for a second
5 collection of subscribers that subscribe to a second wireless service provided by the second service provider, wherein the first and second collections identify substantially different subscribers, and wherein a subscriber of the first service provider gains access to the second wireless service by the first service provider receiving information from the second subscriber information.

284. (New) The method of Claim 98, wherein the first and second service providers are competitors for wireless subscribers.

285. (New) The method of Claim 98, wherein: the mobile station $M_{1,1}$ and the mobile station M_2 are identical.

286. (New) The method of Claim 285, wherein when a first instance of the geographical extent or position $G_{1,1}$ is determined to be one of:

(a) ambiguous,

(b) not provided,

5 (c) not within a desired range of accuracy, and

(d) a geographical extent greater than or equal to a predetermined size,

then said mobile station $M_{1,1}$ communicates with the network $NTWK_2$ for obtaining geolocation indicative data from a corresponding communication between: (i) the mobile station $M_{1,1}$, and (ii) at least one of: a receiver at a known location, and a transmitter at a known location.

287. (New) The method of Claim 285 wherein the first geolocation related information and the second geolocation related information are for substantially a same location.

288. (New) The method of Claim 98, wherein: (a) location information for $M_{1,1}$ is provided by the location provider to a predetermined destination for a vehicle rental agency, (b) the mobile station $M_{1,1}$ resides in a rental vehicle of the rental agency, (c) said rental vehicle has been dropped off at a location that is remote from a premise operated by the vehicle rental

5 agency, and (d) said location information corresponds to the location of the vehicle.

289. (New) The method of Claim 98, wherein said mobile station $M_{1,1}$ is included in a vehicle for wirelessly controlling one or more of the following vehicle operations: (a) locking or unlocking vehicle doors, (b) sensing a door position, (c) sensing a keypad depression, (d) sensing a condition of an engine, (e) sensing a condition of a vehicle brake, and (f) sensing a deployment
5 of a air bag.

290. (New) The method of Claim 289, wherein said mobile station $M_{1,1}$ is in communication with a local area network of the vehicle for performing one or more of the vehicle operations.

291. (New) The method of Claim 98, further including a step of transmitting a request for locating the mobile station $M_{1,1}$ to the location provider, wherein said request is encrypted.

292. (New) The method of Claim 98, further including a step of receiving data indicative of an event or a condition that occurs substantially at the mobile station $M_{1,1}$.

293. (New) The method of Claim 292, wherein the data is obtained via a local area network provided within a vehicle having the mobile station $M_{1,1}$.

294. (New) The method of Claim 292, wherein the data includes information indicative of a sudden change in an acceleration or deceleration force, or deployment of an air

bag.

295. (New) The method of Claim 292, wherein the data includes information indicative of an emergency assistance call.

296. (New) The method of Claim 295, wherein the mobile station $M_{1,1}$ and the mobile station M_2 are identical.

297. (New) The method of Claim 292, wherein the data includes information indicative of the mobile station $M_{1,1}$ traveling into or out of a designated area.

298. (New) The method of Claim 98, further including receiving a communication of control data for controlling one or more devices co-located with the mobile station $M_{1,1}$.

299. (New) The method of Claim 98 further including one or more of steps (i) and (ii) following:

(i) receiving the location information via: (1) a digital air interface voice channel or a wireline channel, and (2) an automatic call distributor; and

5 (ii) receiving the location information via: (3) a digital air interface voice channel or a wireline channel, and (4) a hunt group associated with a central office or a PBS group.

300. (New) The method of Claim 98, wherein said location provider provides, to a predetermined destination, location information dependent upon or identical to $G_{1,1}$ via at least

one of: (a) a transmission through a network that includes a plurality of independently operated networks, and (b) the Internet.

301. (New) The method of Claim 300, further including providing one or more updates of said first geolocation related information to the location provider without an individual request being transmitted for each of the updates.

302. (New) The method of Claim 98, further including providing one or more updates of said $M_{1,1}$ geolocation information without an individual request being transmitted for each of the updates.

303. (New) The method of Claim 302, wherein said updates are for one or more of: providing emergency assistance, and locating one or more vehicles.

304. (New) The method of Claim 98, further including transmitting, to the mobile station $M_{1,1}$, information for navigating a user of the mobile station $M_{1,1}$ to a desired geographical destination.

305. (New) The method of Claim 304, wherein said transmitting step includes transmitting a short message via a short messaging service.

306. (New) The method of Claim 304, wherein said information for navigating includes one or more of: a street address, and a building identification.

307. (New) The method of Claim 98, wherein said first geolocation related information is for an emergency assistance call.

308. (New) The method of Claim 98, wherein the transmission of said $\mathbf{M}_{1,1}$ geolocation information includes data so that the first geolocation computation performs one of: a triangulation, trilateration, and a multilateration for determining the geographical extent or position $\mathbf{G}_{1,1}$ for the mobile station $\mathbf{M}_{1,1}$.

309. (New) The method of Claim 308, wherein the transmission of said \mathbf{M}_2 geolocation information includes data so that the second geolocation computation performs one of: a triangulation, trilateration, and a multilateration for determining the geographical extent or position \mathbf{G}_2 for the mobile station \mathbf{M}_2 , and the mobile station $\mathbf{M}_{1,1}$ is different from the mobile station \mathbf{M}_2 .

310. (New) The method of Claim 98, wherein:

- (a) the network \mathbf{NTWK}_1 controls a plurality of base stations for providing two-way communication with a plurality of mobile stations; and
- (b) the mobile station $\mathbf{M}_{1,1}$ is recognized by the network \mathbf{NTWK}_1 for receiving wireless service via the plurality of base stations.

311. (New) The method of Claim 98, wherein the first geolocation computation does not perform a geolocation computation that both: (i) uses a same geolocation content as the

second input, and (ii) yields effectively a same geolocation result as the second geolocation computation.

312. (New) The method of Claim 98, further including transmitting a purposefully provided time delay as part of one of: the $\mathbf{M}_{1,1}$ geolocation information, and the \mathbf{M}_2 geolocation information.

313. (New) The method of Claim 98, wherein (c) is satisfied.